Corporation: Philippine Rice Research Institute PHILRICE

I. CORPORATE PROFILE

A. Corporate Objectives (as mandated by its charter)

PhilRice is a chartered government corporate entity created through Executive Order (EO) No. 1061 on November 5, 1985 (amended by EO 60 on November 7, 1986). According to Section 2 of its charter, the purpose of PhilRice is to develop a national rice research program so as to sustain and further improve the gains already made in rice production, improve the income and economic condition of small rice farmers, expand employment opportunities in the rural areas, and ultimately promote the general welfare of the people through self-sufficiency in rice production. Its functions as outlined in Section 3 of the charter include, among other duties, the following:

1. Serve as the coordinating center of a national network of rice research stations located in the different agro-ecological regions of the country;
2. Plan and carry out research and development activities, specifically in the areas of varietal improvement, planting and fertilizer management, integrated pest management, farm mechanization and post-harvest engineering, farming systems, training and technology transfer, and social science and policy research;
3. Verify, package, and transfer economically viable technologies, giving emphasis on the social engineering aspects necessary for group endeavor;
4. Provide the data base or policy formulation that will stimulate and sustain rice production, marketing, and consumption;
5. Organize and develop strong training programs for rice scientists, research managers, and extension workers; and
6. Publish and disseminate research findings and recommendations

B. Corporate Priorities for Year 2021-2022

Guided by its new vision, "Rice-Secure Philippines" under its new Strategic Plan for 2017-2022, PhilRice and its partners will propose and execute strategies on how to create significant impacts on the lives of all rice stakeholders.

With its mission "To improve the competitiveness of the Filipino rice farmer and the Philippine rice industry and transform it to be more profitable, resilient, and sustainable through responsive, balanced, environmentally sound, and partnership-based research, development, and extension," PhilRice will therefore pursue balanced R4D programs and approach with the following outcomes:

1. Increased productivity, cost-effectiveness, and profitability of rice farming in a sustainable manner;
2. Improved rice trade through efficient postproduction, better product quality, and reliable supply and distribution system;
3. Enhanced value, availability, and utilization of rice, diversified rice-based farming products, and by-products for better quality, safety, health, nutrition, and income;
4. Science-based and supportive rice policy environment;
5. Advanced rice science and technology as continuing sources of growth;
6. Enhanced partnerships and knowledge management for rice research for development (R4D); and
7. Strengthened institutional capability.

C. Major Programs and Projects, 2021–2022

C.1. National Rice R4D Programs

Program 1: Strategically Modernized and Robust Technologies for Competitive and Secure Rice Industry (SMARTerRice)

Modernizing the Philippine Agriculture requires application of strategic technologies for increased productivity, efficiency, and profitability to become a food-secure nation. Different areas in the country would require a different set of technologies to address specific needs of the farms owing to differences in soil characteristics, climatic conditions, value-chain patterns, and demographic characteristics. Obviously, nationally irrigated areas would not identify the availability of water as a production constraint compared to the rainfed areas. This in turn dictates methods of crop establishment, timing of fertilizer applications, and the sets of pests and diseases that would likely to occur. For these reasons, the program aims for a resilient and modern rice and rice-based farming systems towards increased productivity, efficiency, and profitability. Specifically, it aims to:

1. Determine the productivity, efficiency, and profitability of different packages of technologies for the irrigated and favorable rainfed rice environments;
2. Evaluate and develop modern rice-based farming models and value-adding technologies for enhanced multiple streams of income and resiliency; and
3. Enhance the application of digital technologies for advancement and modernization of rice and rice-based farming systems.

Program 2. Rice Business Innovation Systems (RiceBIS)

The program aims to create and pilot test a development model for community

transformation that is participatory, market-driven, and supported by a scientific production base to improve the competitiveness of rice-based farming communities. This will be done through establishment of rice hub that would serve as a farmers' support system in carrying out rice-based enterprises. Specifically, the program seeks to:

1. Examine the community's rice supply and market chain including the input suppliers, producers, processors, traders, and consumers as well as market opportunities;
2. Implement a communication strategy to increase awareness, interest, and willingness of target participants in engaging in rice-based enterprises;
3. Enhance the technical, organizational, and entrepreneurial capability of farmers and other stakeholders to engage in rice-based enterprises;
4. Develop and implement rice-based enterprise plans, and develop a sustainability mechanism for the identified rice-based enterprises;
5. Organize and mobilize farmers and other stakeholders in support of the rice-based enterprise plan; and
6. Establish a monitoring and evaluation system.

C.2. Discipline-Based and Upstream Rice R4D Projects

In support of the implementation of the Rice R&D programs, PhilRice is implementing basic and upstream research activities through its R&D divisions:

Plant Breeding and Biotechnology focuses on enhancing genetic variability of potential rice varieties/elite lines; developing breeding materials with yield-enhancing, stabilizing, and value-adding traits for use as parents in hybridization programs and/or direct utilization as varieties; characterizing important germplasm and making available nucleus seeds for commercial cultivation. It seeks to ensure stable and sustainable rice production through the development of high-yielding, pest and abiotic stress-resistant and good grain quality rice varieties suitable to major rice-growing ecosystems.

Agronomy, Soils, and Plant Physiology leads research efforts to evaluate, refine, and facilitate the delivery of improved soil, nutrient, and water management practices to enhance soil quality and profitability and plant resource use efficiency.

Crop Protection seeks to help attain rice self-sufficiency and build a competitive rice economy through the generation, development, and promotion of pest management strategies, which are environment-friendly, economical, sustainable, and compatible with each other to address farmers' needs. It also assists breeders in screening potential varieties for insect and disease resistance.

Genetic Resources carries out germplasm collection, conservation, management, dissemination, and utilization. It ensures availability of fully characterized germplasm to rice plant breeders and researchers. It also conducts research on genetic diversity. Through its ***Seed Technology Unit***, it performs basic studies on seed biology and physiology, health and pathology, purity and quality control, production, preservation and storage, coating/ treatment and mechanical seeding. It also ensures that high-quality seeds are available to farmers/stakeholders, and helps make rice farming a profitable business by developing cost-effective and environment-friendly rice seed technologies. In addition, it runs and maintains a laboratory and facility for seed health and quality testing as prescribed in the international seed testing rules by ISTA.

Rice Engineering and Mechanization develops machines and tools to increase the national level of farm mechanization and modernize rice production and postharvest operations to increase farm efficiency and productivity.

Rice Chemistry and Food Science focuses on increasing the productivity and profitability of rice farming systems by determining grain quality characteristics of rice; developing technologies on other uses of rice and its by-products; and promoting these high-quality and value-added products to benefit consumers/farmers and food manufacturers.

Socioeconomics conducts research and policy studies to help develop an efficient, competitive, and sustainable rice industry, nurtured by sound policy environments. It supports PhilRice's function of providing timely information to the industry.

Technology Management and Services promotes/disseminates high-impact location-specific rice technologies through area-based technology promotion, and training and education to help increase the productivity and income of rice farmers. Likewise, it enhances capacities of extension workers and other change agents through retooling or rice science and technology updates.

Development Communication promotes rice science for sustainable development through strategic use of communication media. It plays a major and significant part in communicating the results/products of rice science effectively, particularly to the intended users.

Information Systems and Data Management will interactively and collaboratively cater to the data information needs of rice stakeholders. The integration of information systems with the rice R&D will help to systematically plan, schedule, share, and document key activities that support the development of rice production

technologies, farm equipment, technology transfer, and the production of high-quality rice varieties.

The PhilRice-based Crop Biotechnology Center implements a rationalized, effective, and efficient agricultural biotechnology R&D program for the Department of Agriculture with the end view of generating improved agricultural technologies, productivity, profitability, and enhanced commercial potential, value, and activities for agricultural crops.

C.3. Area-Based Rice R4D Projects

Cutting across R&D programs are station-based projects that address location-specific problems in areas of operations of PhilRice Batac, Isabela, Los Baños, Bicol, Negros, Agusan, and Midsayap branch stations.

As the center for dryland agriculture R&D, ***PhilRice Batac*** focuses on improving rice-based cropping systems in semi-arid areas and other environments in Northwestern Luzon (Region 1). Located in Batac, Ilocos Norte, it also develops technologies and management options for rice and rice-based crops in the rainfed and drought-prone environments, such as water harvesting, conservation, management, and storage techniques, and mechanized rice-based farm production and postproduction operations.

PhilRice Isabela, based in San Mateo, Isabela, is dubbed as the Institute's hybrid rice center. It develops, packages, and promotes hybrid rice and its related technologies to boost rice production in Northeastern Luzon (Region 2 and CAR).

In addition to being the Institute's principal office, ***PhilRice Los Baños*** develops and radiates location-specific rice and rice-based technologies in the Calabarzon and Mimaropa regions (Regions IV-A and IV-B). Its partnership with the International Rice Research Institute (IRRI) and University of the Philippines Los Baños (UPLB) also focuses on basic research studies in plant breeding, crop protection, agronomy and soils, and rice chemistry and food science for the generation of new products out of invention, innovation, or discovery. The station also oversees the development of the ***PhilRice Mindoro*** satellite station in Sta. Cruz, Occidental Mindoro to serve farmers, seed growers, and other stakeholders from the entire Mindoro Island and other neighboring provinces.

PhilRice Bicol develops and promotes strategies and technologies for the Bicol Region with special focus on climate change adaptation and resilience. Based in Batang, Ligao City, Albay, it is being developed as the center of rice R&D for climate change adaptation and disaster risk reduction and mitigation. It helps increase rice

productivity in the flood-, submergence-, and drought-prone ecosystems and increase income through rice intensification and crop diversification. It also shepherds the ***PhilRice Samar*** satellite station, located in Catarman, Northern Samar, to promote rice research for development to spur rural transformation and development and attain inclusive growth and increased rice productivity in the entire Samar Island.

Based in Cansilayan, Murcia, Negros Occidental, ***PhilRice Negros*** pilot-tests, fine-tunes, and radiates fossil fuel-free technology packages for Visayan farmers. It is being transformed into an organic rice-based integrated and diversified product development center. It also serves as the distribution center for quality seeds of high-yielding and disease-resistant modern varieties, chiefly suited for Western Visayas.

PhilRice Agusan develops, improves, and promotes location-specific technologies suitable to the unique agro-climatic and socio-economic conditions in Northeastern Mindanao. Located in Basilisa, RTRomualdez, Agusan del Norte, it also addresses challenges, such as nutrient-deficient and problem soils and low solar radiation in the area because of frequent rainfall. The station is being strengthened as the Institute's nutrient management center. It also oversees the ***PhilRice CMU*** field station and office located inside the Central Mindano University campus in Maramag, Bukidnon, that caters to the needs of seed growers and farmers in Central Mindanao and nearby areas, serving as a seed center for both hybrid and inbred rice varieties.

Based in Bual Norte, Midsayap, North Cotabato, ***PhilRice Midsayap*** develops and promotes location-specific rice and rice-based technologies for Regions 9, 12, and BARMM, with focus on ecological engineering and integrated pest management practices because of the prevalence of pests of rice and other crops within the region. In addition, PhilRice Midsayap also initially supervises the ***PhilRice Zamboanga*** satellite station that caters to the needs of rice agriculture in the Zamboanga Peninsula.

D. Linkages of Corporate Priorities/Programs/Projects with the National/ Sectoral Plan, the Medium-Term Philippine Development Plan, and National Pronouncements

As the lead agency for rice R4D, PhilRice and its partners envision a *"Rice-Secure Philippines"*. Rice security, in our parlance, means availability, affordability, and accessibility to high-quality and nutritious rice at all times. This vision therefore encompasses broad areas relating to rice cultivation, commerce, consumption, and competitiveness. It is founded on the President's and DA's vision of a food-secure society where farmers enjoy decent and rising standards of living with available and affordable food for all Filipinos.

For 2017-2022, PhilRice has laid down concrete targets that it commits itself to achieving guided by its vision and mission of improving the competitiveness of the Filipino rice farmer and the Philippine rice industry and transforming it to be more profitable, resilient, and sustainable through responsive, balanced, environmentally sound, and partnership-based research, development, and extension. This Plan orchestrates all known voices in rice R4D such as those from plant breeders, agronomists, rice machine experts, crop protection specialists, social scientists, and resource-poor farmers.

It is anchored on global targets set forth in the *UN's Transforming Our World: The 2030 Sustainable Development Agenda* (Assembly, 2015). This agenda takes off from the Millennium Development Goals. Specifically, it responds to Goal 1 (Eradicate poverty in all its forms everywhere) and Goal 2 (End hunger, achieve food security and improved nutrition, and promote sustainable agriculture).

Moreover, it also adheres to the vision of the ***Philippine Development Plan 2017-2022, Chapter 8 – Expanding economic opportunities in Agriculture, Forestry and Fisheries*** as it focuses on expanding economic opportunities in Agriculture, Forestry and Fishery (AFF); and increasing access to economic opportunities by small farmers and fisherfolks**.**

For the **Gender and Development Initiatives,** it is ensured that gender is mainstreamed in the Institute's research and development projects. Specifically, development projects are required to have a gender component so that the Institute's technologies and rice information are accessed and available to both men and women rice stakeholders. Proposed research projects that mainstream gender in its activities will have a higher chance of being implemented. Capacity enhancement activities for PhilRice staff on gender and development are conducted. All these improve the Institute's reach to women and other disadvantaged stakeholders in the rice community thereby, optimizing research and development contributions. The mainstreaming of gender in the Institute's R&D is in response to Republic Act 7192 (otherwise known as the Women in Development and Nation Building Act), which affirms the State's recognition of women's role in nation building.